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FIG. 1

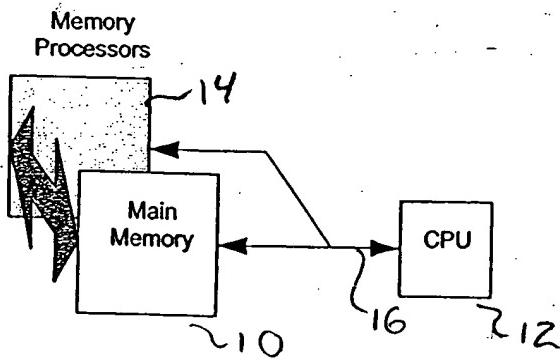
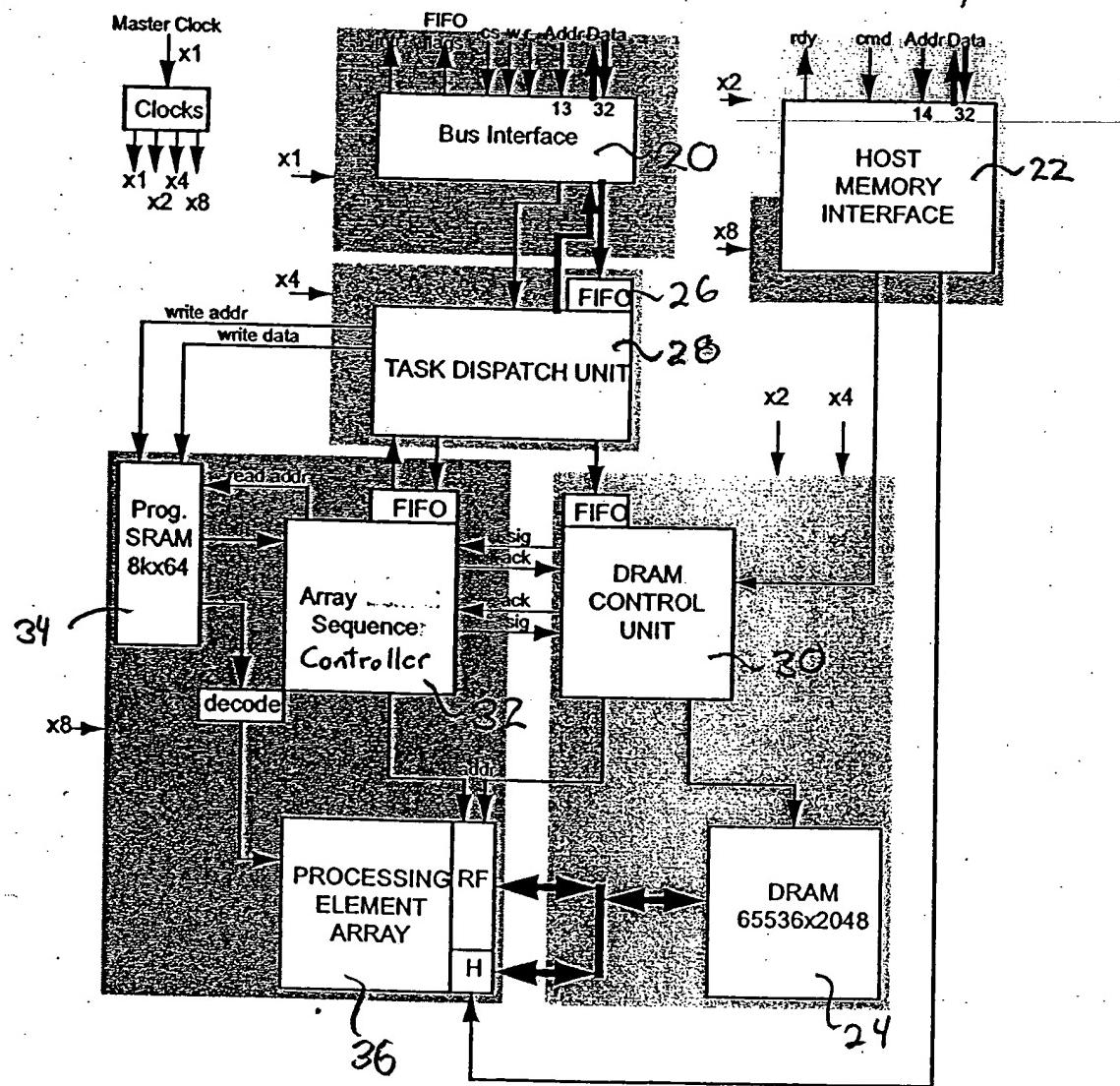


FIG. 2



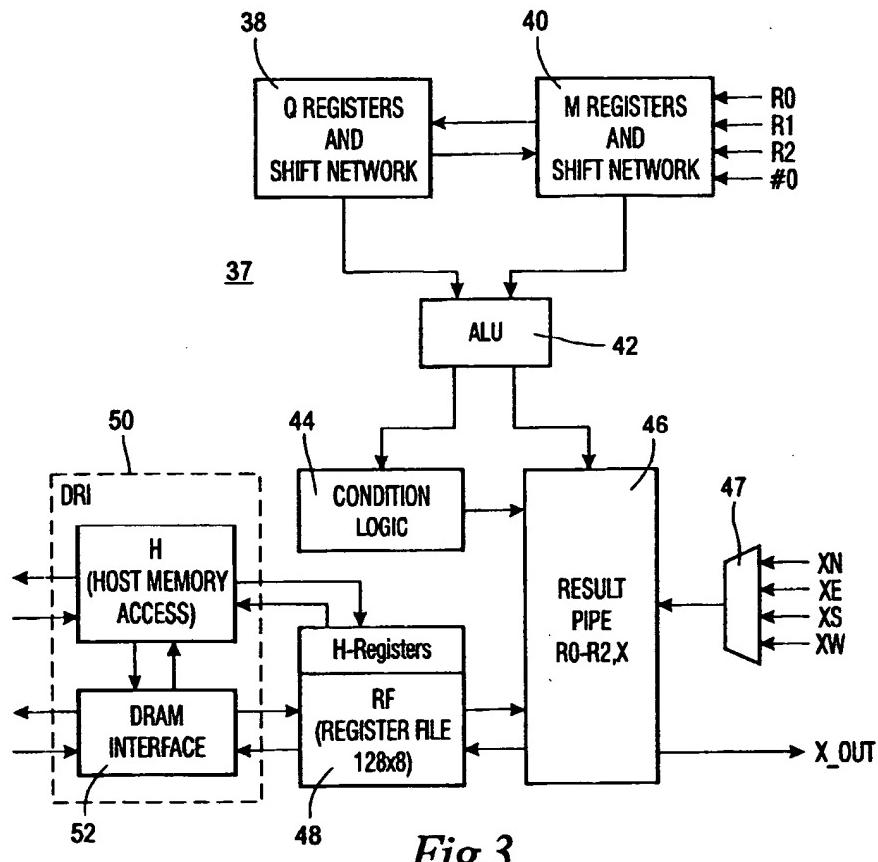


Fig.3

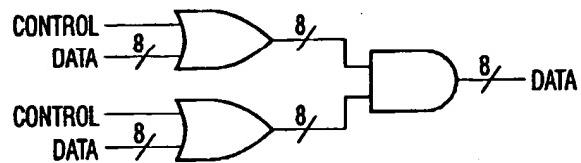


Fig.4

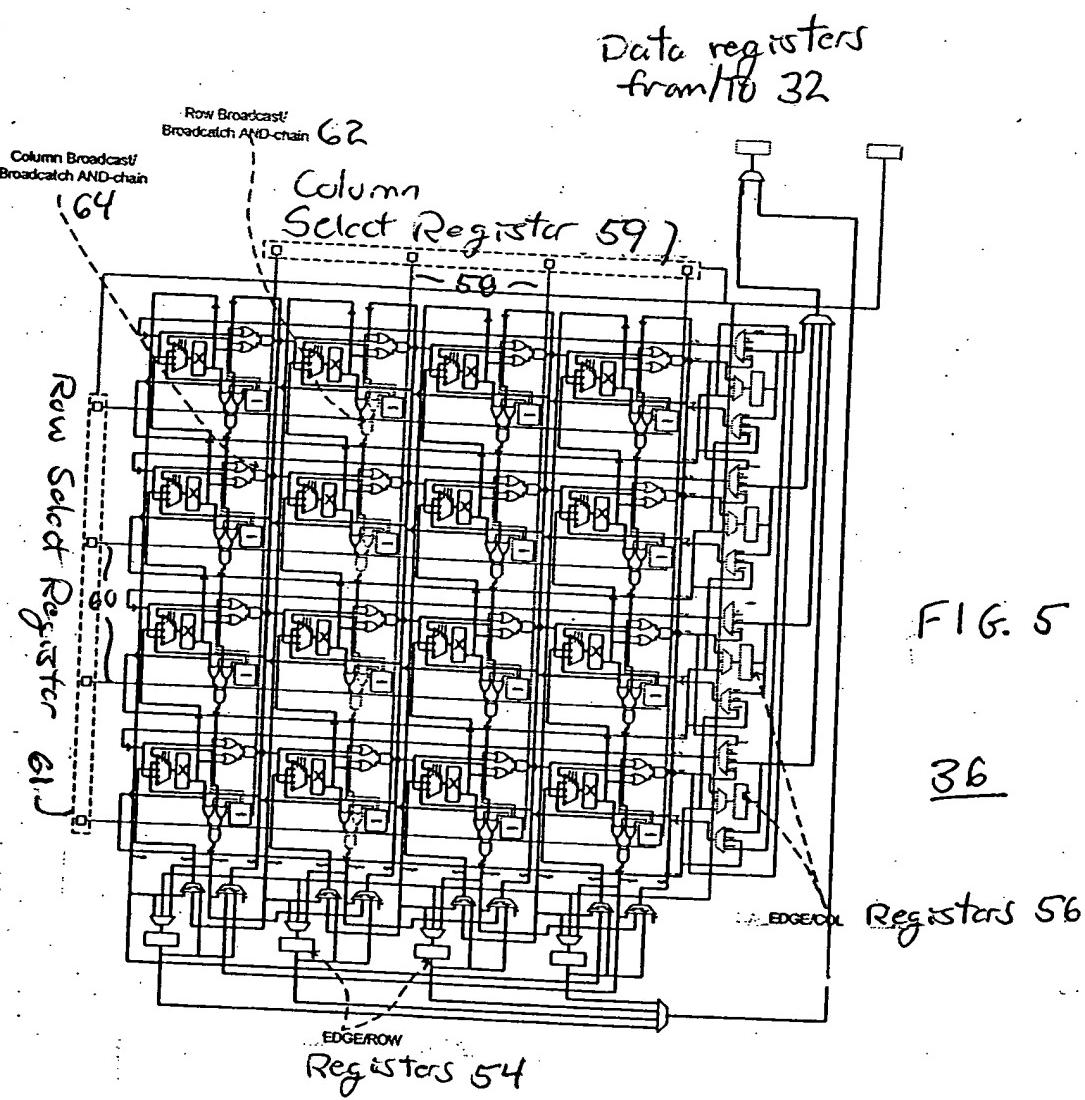


FIG. 5

36

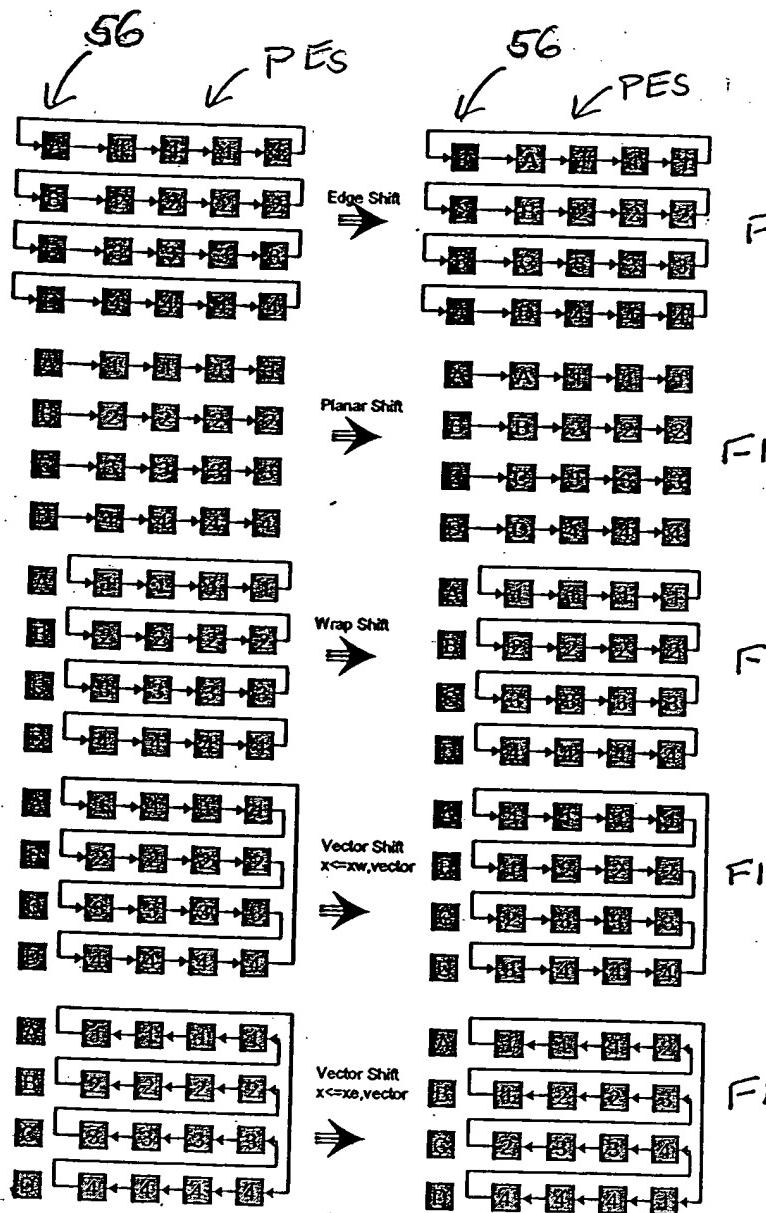
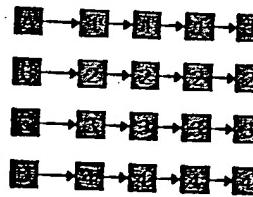


FIG. 6A

56
PES

Edge Shift

FIG. 7A



Planar Shift

FIG. 6B

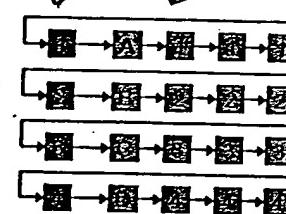
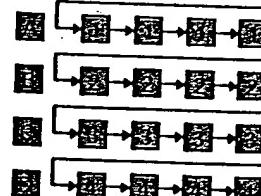


FIG. 8A



Wrap Shift

FIG. 7B

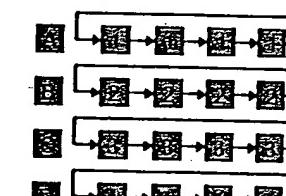
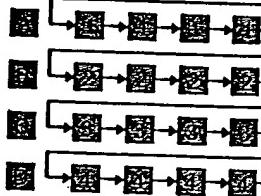


FIG. 9A



Vector Shift
 $x \leftarrow x_w, \text{vector}$

FIG. 8B

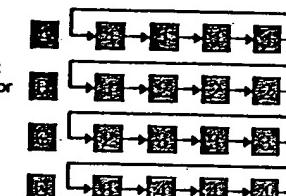
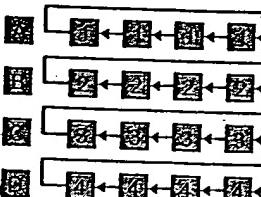
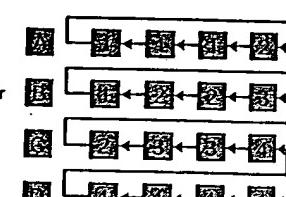


FIG. 10A



Vector Shift
 $x \leftarrow x_e, \text{vector}$

FIG. 9B



Data is broadcast from edge registers

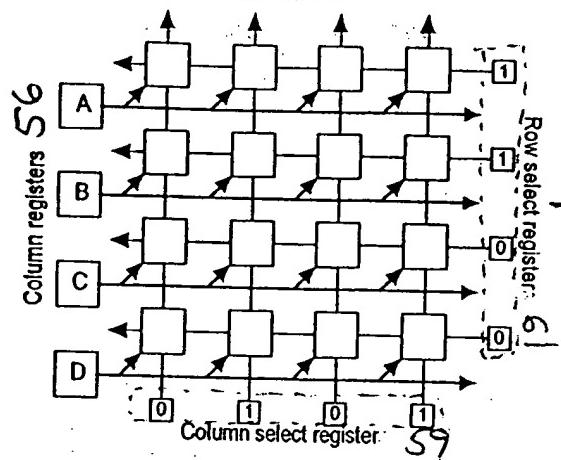


FIG. 11A

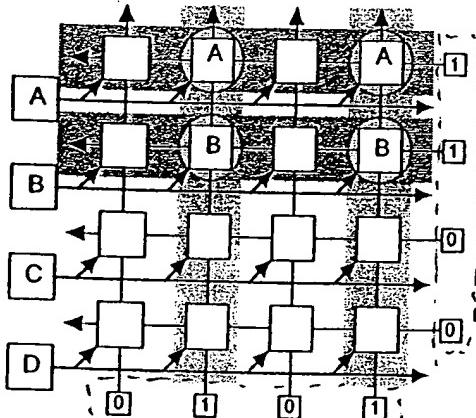


FIG. 11B

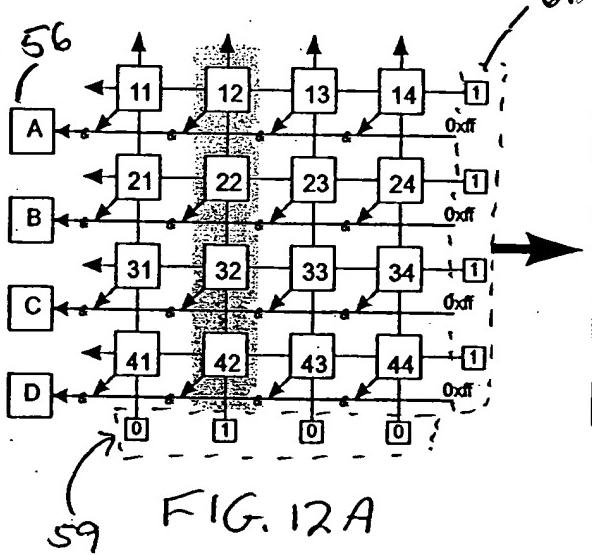


FIG. 12A

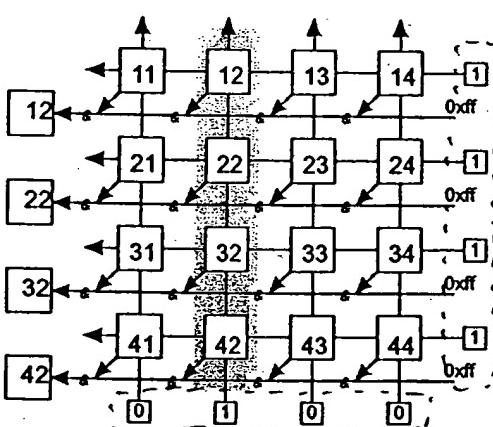


FIG. 12B

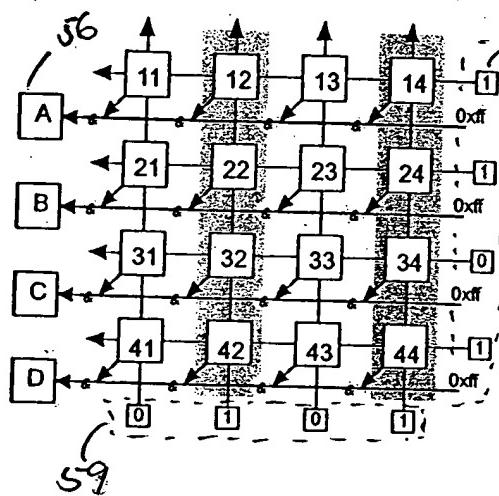


FIG. 13A

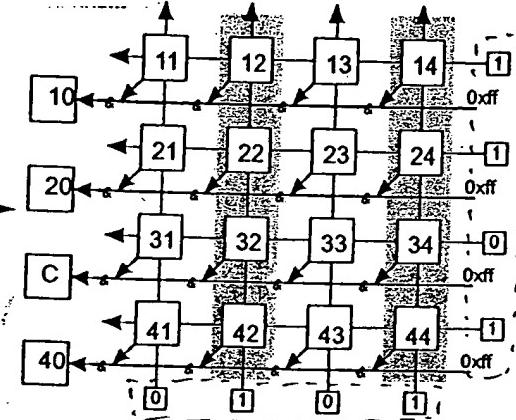


FIG. 13B

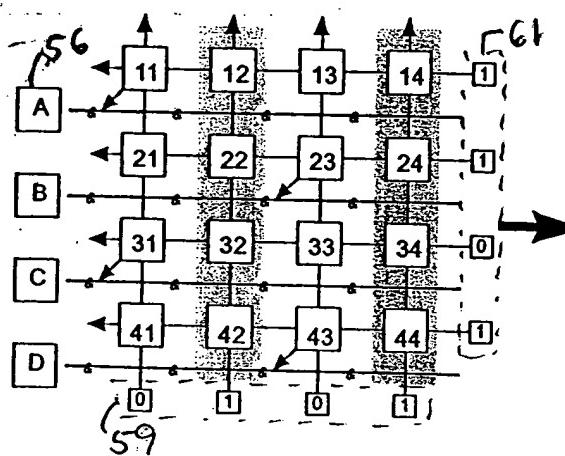


FIG. 14A

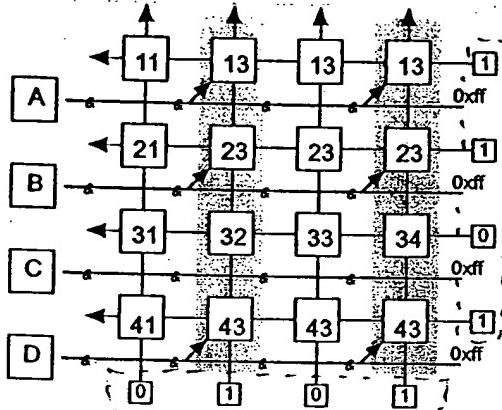


FIG. 14B

a	b	c	d
e	f	g	h
i	j	k	l
m	n	p	q

FIG. 15

X=	0	1	2	3	
C=	3	2	1	0	
R=0	a	e	i	m	
1	b	f	j	n	
2	c	g	k	p	
3	d	h	l	q	

FIG. 16A

0	1	2	3	
3	2	1	0	
q	l	h	d	Y=3
p	k	g	c	2
n	j	f	b	1
m	i	e	a	0

FIG. 16B

c = 13, 2, 11, 0

R	a	b	c	d
0	a	b	c	d
1	e	f	g	h
2	i	j	k	l
3	m	n	p	q

FIG. 17A

a	c	i	m
f	j	n	
	K	P	
		q	

FIG. 17B

a	b	c	d
e	f	g	h
i	j	k	l
m	n	p	q

FIG. 17C

a	e	i	m
f	j	n	
g	k	P	
h	l	q	

FIG. 17D

a	b	c	d
e	f	g	h
i	j	k	l
m	n	p	q

FIG. 18A

			d
		g	c
i	f	b	
m	i	e	a

FIG. 18B

a	b	c	d
e	f	g	h
i	j	k	l
m	n	p	q

FIG. 18C

q	l	h	d
p	k	g	c
n	i	f	b
m	i	e	a

FIG. 18D

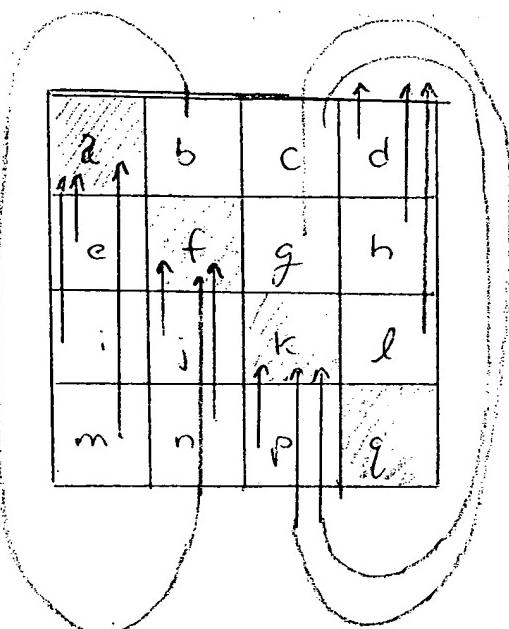


FIG. 19A

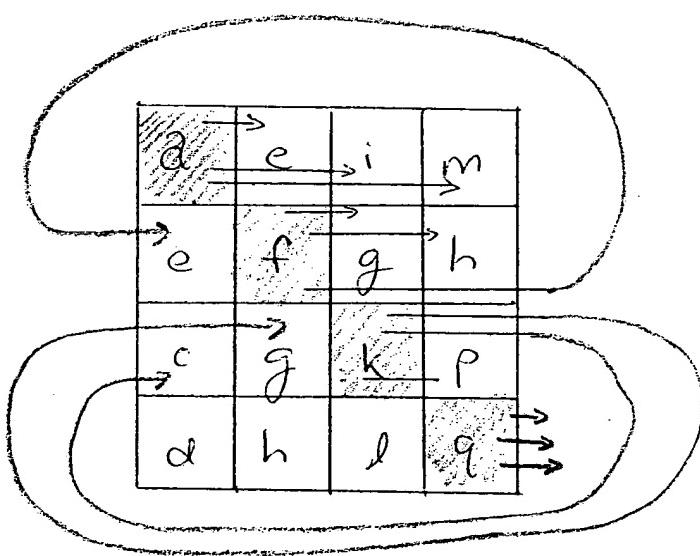


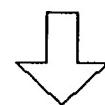
FIG. 19B

Input Data

a	b	c	d
e	f	g	h
i	j	k	l
m	n	p	q

FIG. 20A

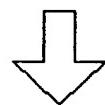
a			
	f		
		k	
			q



a	b		
		g	
		k	l
m			q

FIG. 20B

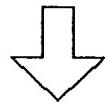
a	e	i	
	f		n
c		k	p
d	h		q



a	b		
		g	
		k	l
m			q

FIG. 20C

a	e	i	
	f	j	n
c		k	p
d	h		q



a			
		f	
		k	
			q

FIG. 20D

a	e	i	m
b		j	n
c	g	k	p
d	h		q